

GRANIRAPID

Two-component, high-performance, deformable, quick-setting and drying cementitious adhesive for ceramic tiles and stone material.



CLASSIFICATION IN COMPLIANCE WITH UKCA AND EN 12004

Granirapid is a cementitious (C), improved (2), fast setting (F), deformable (SI) adhesive classified as C2FS1.

Granirapid is available in grey or white.

Conformity of **Granirapid** Grey is declared in TT Certificate no. **85330201.101** and no. **25070279/Gi** issued by the Saurefliesner-Vereinigung e.V. Grossburgwedel laboratory. Conformity of **Granirapid** White is declared in TT Certificate no. **250800600/Gi** issued by TUM Munchen.

WHERE TO USE

For the installation of a wide range of tile and mosaic types including ceramic, encaustic, porcelain, natural and agglomerate stone, terrazzo and terracotta. Suitable for interior and exterior use on both walls and floors. For bonding heavy duty rubber flooring requiring installation with a cementitious adhesive e.g. those with a profiled back – stalk back or dove-tailed back. For use on the majority of conventional substrates used in construction such as concrete, screed (cement-based anhydrite) and plywood (min. 15 mm), cementitious render, plaster and plasterboard. Suitable for use with MAPEI waterproof membranes such as **Mapelastic / Mapelastic Smart**.

Some application examples

- Ideal for the installation of natural stone materials where a rapid setting system is required. Suitable for granite, basalt, marble, limestone, travertine, slate and sandstone.
- The special composition of **Granirapid** makes it especially suitable for the installation of agglomerate or synthetic stone where a rapid drying low water system would be beneficial.
- The high strength and durability of **Granirapid** makes it ideally suited to the installation of tiles in heavy duty areas such as shopping centres, supermarkets, airports, railway stations, public buildings, car showrooms and workshops, commercial kitchens, factories, hospitals, schools and universities.
- Ultra rapid strength build-up; perfect for areas which need to be put into service shortly after tiling. Also for areas requiring a quick, efficient repair.
- Heavy duty wet performance for commercial showers, leisure centres, swimming pools, exterior walkways, terraces and balconies.
- The excellent wetting properties of **Granirapid** make the adhesive capable of installing larger format tiles e.g. 600 x 600 mm.

ON

- Bonded, unbonded, floating and heated screeds provided that they are sufficiently cured. Includes screeds produced with **Topcem, Topcem Pronto, Mapecem, Mapecem Pronto**.
- Underfloor and undertile heating systems, certain resin agglomerated stone tiles may not be suitable for use on heated floors as their coefficient of thermal expansion may be too high, which will lead to excessive expansion within the tile and

consequently curling and de-bonding. Seek the advice of the tile manufacturer.

- Existing tiled flooring (ceramic, natural stone, terrazzo etc.) after suitable preparation, cleaning and degreasing.
- Plywood overlaid floors, provided that the plywood is WBP or marine and at least 15 mm thick and screw fixed at maximum 300 mm centres.

TECHNICAL CHARACTERISTICS

Granirapid is a two-component adhesive composed of a special hydraulic binder and silica sand (part A) and a synthetic rubber latex (part B).

Granirapid has particularly fast setting and hydration times so that floors are set to light foot traffic after 3 hours and completely cured after only 24 hours.

Granirapid has very low shrinkage and excellent bonding characteristics making it suitable for most difficult substrates. Its mechanical properties make it resistant to impact, vibration, temperature changes, ageing and dilute chemical reagents.

RECOMMENDATIONS

Do not use **Granirapid**:

- on walls or floors subject to intense movement (chipboard or floorboards, etc.);
- on metal surfaces;
- on artificial, agglomerate or natural stone subject to exceptional moisture movement, e.g. green marble, certain sandstones and slates. Use **Keralastic** only.

APPLICATION PROCEDURE

Preparation of the substrate

All substrates onto which **Granirapid** will be applied must be flat, mechanically strong, free from loose parts, grease, oil, paint, wax, etc. Cementitious substrates must not continue to shrink after the installation of the tiles. New concrete bases should be allowed to cure for a minimum of 6 weeks. Renders must be cured for at least 2 weeks and cementitious screeds must be cured for at least 3 weeks, unless they have been produced with special MAPEI binders for screeds such as **Mapecem** or **Topcem** or a ready mixed mortar such as **Mapecem Pronto** or **Topcem Pronto**. Heated screeds must be commissioned in accordance with recognised technical regulations and the guidelines given in BS 5385 parts 3, 4 and 5. Should the surface become too warm from exposure to direct sunlight, dampen with water to cool. Ensure that existing tiled finishes are well bonded. Replace any loose or hollow sounding tiles with a suitable mortar such as **Nivorapid**.

Thoroughly degrease the surface ensuring that all waxes and polishes are thoroughly removed. Mechanical abrasion may be necessary and we would generally recommend this procedure when tiling to natural stone and terrazzo flooring.

Gypsum plaster must be completely dry and at least 4 weeks old prior to commencing tiling. Prime the surface with **Primer G**. Anhydrite screeds must be dry (0.5% w/w), free from surface laitance and mechanically abraded as necessary (check with manufacturer). Prime with **Primer G** or **Eco Prim T Plus**. In wet areas apply a waterproof membrane such as **Mapegum WPS**, **Mapelastc Smart** or **Mapelastc AquaDefense**.

Ensure that plywood overlay is screwed to a rigid base at a maximum of 300 mm centres in all directions, that the board is a minimum of 15mm thick of marine or WBP grade and that it has been acclimatised to the ambient conditions prior to the commencement of tiling.

Mixing

The **Granirapid** mix is obtained by mixing 20 kg of part A grey or 18 kg part A white (cementitious powder) with 4.4 kg of part B (synthetic rubber latex). If possible, use a mechanical mixer until a smooth mix is obtained. Always pour the powder (part A) into the latex (part B). Pot life at +20°C is about 45 minutes, but higher temperatures may reduce this time.

Applying the product

To achieve good adhesion, first spread a thin coat of **Granirapid** onto the substrate using the straight edge of the trowel followed immediately by the correct thickness, using an appropriate notched trowel. The general principle to follow when selecting the right trowel is to choose one that gives coverage to at least 65-70% of the back of the tiles for internal walls in dry areas and 100% (as far as possible) coverage for floor areas, wet areas and all external work. For particularly demanding applications such as: exteriors subject to freezing, swimming pools, floors subject to heavy loads or to be polished in situ, tiles with deep backs or large size tiles, **Granirapid** should additionally be applied to the back of the tiles (back-buttering). Large size tiles include those over 900 cm² (30x30 cm). Maximum bed depth of 10 mm.

Installing the tiles

Open time in normal temperatures and humidity conditions is approximately 20 minutes. Unfavourable climatic conditions (strong sun, drying wind, high temperature, etc.) or a highly absorbent substrate can reduce this time to just a few minutes. Careful checks have to be made to ensure that a skin does not form on the surface of the spread adhesive,

which should stay “fresh”. Wetting or priming the substrate before applying the adhesive helps to prolong open time. Should a skin form, the adhesive will have to be removed and fresh material applied. It is not advisable to wet the adhesive with water when a skin has formed because the water will often form a separating layer. Tiles laid with **Granirapid** must not be washed or exposed to rain for at least 3-4 hours and must be protected from strong sunlight for at least 12 hours after laying.

Installing rubber tiles

The installation of rubber with cementitious adhesive must be carried out by back-buttering. Butter the back of the slab with **Granirapid**, and spread **Granirapid** on the substrate with a No. 6 trowel. Apply the slab “wet” on “wet” and lightly twist.

GROUTING

Joints can be grouted after 3 hours with special MAPEI cementitious or epoxy grouts, available in various colours. Expansion joints must be sealed with selected MAPEI sealants.

POLISHING

Surfaces can be polished after minimum 24 hours.

SET TO LIGHT FOOT TRAFFIC

Floors are able to take light foot traffic after 3-4 hours.

READY FOR USE

Surfaces are ready for use after approximately 24 hours. Swimming pools and water features can be filled after 3 days.



Installation of porcelain tiles in an industrial environment



Overlaying rubber flooring on cement with Granirapid



Installation of white Carrara marble with white Granirapid



Overlaying ceramic tiling with an agglomerate mix using with grey Granirapid

CLEANING

All tools may be cleaned with water before the adhesive sets. After setting, cleaning becomes very difficult, but can usually be aided by solvents such as white spirit or similar.

CONSUMPTION

Mosaics and small tiles in general (notched mosaic trowel): 2.5-3 kg/m²

Normal tiles (up to 200x200 mm) (6 mm notched trowel): 3.5-4 kg/m²

Large tiles, exterior floors (10 mm notched trowel or larger): 5-6 kg/m²

Uneven tile backs and uneven surfaces, natural stones (12 mm notch trowel / or half moon notched): 8 kg/m² or more

PACKAGING

Granirapid is available in white or grey.

Granirapid white: 22.4 kg packs:

part A: 18 kg bag;

part B: 4.4 kg drum.

Granirapid grey: 24.4 kg packs

part A: 20 kg bag;

part B: 4.4 kg drum.

STORAGE

Granirapid Part A can be stored 12 months in original unopened packing in a dry place. Protect from moisture.

Granirapid Part B can be stored 24 months. Protect from frost and strong sunlight.

SAFETY INSTRUCTIONS FOR THE PREPARATION AND INSTALLATION

Instructions for the safe use of our products can be found on the latest version of the Safety Data Sheet, available from our website www.mapei.co.uk.

PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values) In compliance with: – UKCA 12004 – European EN 12004 as C2FS1	
PRODUCT IDENTITY	
EMICODE:	EC1 Plus - very low emission
COMPONENT A	
Consistency:	white or grey powder
Bulk density (g/cm³):	1.3
Dry solids content (%):	100
COMPONENT B	
Consistency:	thick liquid
Colour:	greenish white
Density (g/cm³):	1.01
pH:	10
Dry solids content (%):	21

Brookfield viscosity (mPa-s):	40
APPLICATION DATA (at +23°C - 50% R.H.)	
Mix ratio:	white: component A: 18kg + component B: 4.4kg grey: component A: 20 kg + component B: 4.4 kg
Consistency of mix:	creamy paste
Density of mix (kg/m ³):	1600
pH of mix:	approx. 11
Application temperature range:	from +5°C to +30°C
Pot life of mix:	45 mins.
Open time (according to EN 1346):	approx 20 mins.
Setting time:	approx. 2 hours
Grouting:	after 3 hours
Set to light traffic:	after 3-4 hours
Ready for use:	after 24 hours (3 days for basins and swimming pools)
FINAL PERFORMANCES	
Tensile adhesion strength according to EN1348 (N/mm ²): – initial (after 28 days): – after heating: – after water immersion: – after freeze/thaw cycles:	2.5 2.2 1.3 1.4
Flexural strength (N/mm ²): – after 24 hours – after 7 days – after 28 days	3.0 5.0 6.0
Compressive strength (N/mm ²): – after 24 hours – after 7 days – after 28 days	10.0 17.0 20.0
Resistance to acids:	fair
Resistance to a alkalis:	excellent
Resistance to oils:	excellent
Resistance to solvents:	excellent
Temperature when in use:	from -30°C to +90°C
Deformability according to EN 12004:	S1 - deformable

N.B.

Whilst we try to ensure that any advice, recommendations or information given in our literature is accurate and correct, we have no control over the circumstances in which our product is used. It is therefore important that the end users satisfy themselves that the product and conditions are suitable for the envisaged application. No warranty can be given or responsibility accepted other than, that the product supplied by us will meet our written specification. End users should ensure that our latest product data and safety information sheets have been consulted prior to use. Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.co.uk

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement or replace requirements per the TDS in force at the time of the MAPEI product installation. The most up-to-date TDS can be downloaded from our website www.mapei.co.uk

ANY ALTERATION TO THE WORDING OR REQUIREMENTS CONTAINED OR DERIVED FROM THIS TDS EXCLUDES THE RESPONSIBILITY OF MAPEI.



An example of mosaic and klinker installed in a swimming pool



An example of mosaic and klinker installed in a swimming pool - Olympic Centre, Sydney (Australia)



Sistine Corridors - Vaticano - Rome



An example of an installation of granite with Granirapid Subway in Mulheim Ruhr (Germany)

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